

REMARKS

Claims 61-82 are pending in this Application, with Claims 61 and 82 being independent. Claims 1-59 are cancelled herein; Claim 60 was cancelled previously. Claims 61-82 are newly added. It is submitted that support for them can be found throughout the originally-filed specification and that no new matter has been added by the amendments herein.

Claims 1-6, 8-10, 12-15, 17, 19-24, 26-28, 30-33, 35 and 59 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Lin et al. (U.S. Patent No. 5,851,274) in view of Sakuma et al. (U.S. Patent No. 5,877,235). Claims 7, 16, 25 and 34, and Claims 11, 18, 29 and 36 were rejected as allegedly obvious over the same two references and further in view of Sacripante et al. (U.S. Patent No. 6,025,412) or Hotomi et al. (U.S. Patent No. 5,376,169), respectively.

Claims 1-10, 12-17, 19-28, 30-35 and 59 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Lin et al. in view of Tsutsumi et al. (U.S. Patent No. 6,031,019). Claims 11, 18, 29 and 36 were rejected over the same two references and further in view of Hotomi et al.

Claims 1-5, 7, 9-10, 12-17, 19-23, 25, 27-28, 30-35 and 59 were rejected under 35 U.S.C. § 103(a) as allegedly obvious over Tsutsumi et al. in view of either Johnson et al. (U.S. Patent No. 5,803,959) or Tsang et al. (U.S. Patent No. 5,886,065). Claims 6, 11, 18, 24, 29 and 36 were rejected as allegedly obvious over the same combination of references, and further in view of Yui et al. (U.S. Patent No. 5,948,155) and Hotomi et al.

Without conceding the propriety of any part of these rejections, Claims 1-59 are cancelled herein without prejudice to or disclaimer of their subject matter. Therefore, these rejections are now moot.

Applicants submit the following comments about the features, advantages, and patentability of the invention as presently claimed.

Conventionally, it has been difficult to obtain both high image density and high rub-off resistance. In response to this problem, the inventor of the present application has found out that use of a resin encapsulating a coloring material can compensate for the decrease in image density due to the reduction of the pigment content, with enhancement of the rub-off resistance of the formed image. In Applicant's view, nothing is

disclosed or suggested in the cited references about the advantages of a combination of a self-dispersing pigment and a resin encapsulating a coloring material in the ink of the present invention.

Further, it should be noted that properties of ink-jet ink are based on a delicate balance of the ink components. Thus, if one main component is taken out of an ink and incorporated into another ink, it is not predictable, even by one skilled in the art, as to whether the ink can be used as an ink-jet ink.

In the "Response to Arguments", the Examiner asserts that it would have been reasonable for one of ordinary skill in the art to expect that the combination of Lin et al. and Sakuma et al. would also intrinsically possess the same properties as found in the present invention, including rub resistance. (See page 18 of the August 30, 2001 Office Action.) Sakuma et al., however, clearly states that an aqueous ink that does not blur and that exhibits improved waterfastness and improved fixation without impairing the inherent color-forming properties of the dye or pigment can be obtained by using a suspension of colored resin particles and by adjusting the product (A) of surface tension, viscosity, and average particle size of the suspended

particles to be within a specific range (column 1, line 61 - column 2, line 3). That is, the effect of the invention of Sakuma et al. can be achieved only when such conditions are satisfied and in the correct balance.

Thus, Applicant concludes that it is meaningless to merely take one component from the ink of Sakuma et al. and put it in the pigment ink of Lin et al., because such conditions are not considered in Lin et al. Accordingly, the inventions of Lin et al. and Sakuma et al. cannot be combined.

The Examiner also alleges that column 20, lines 50-57 of Sakuma et al. discloses that the resin encapsulated colorant itself prevents the ink from blurring and improves the waterfastness and fixation of the ink. (See page 17 of the Office Action.) Applicant submits, however, that this part of Sakuma et al. generally describes the properties of the ink, not specifically the effect obtained by applying just the resin encapsulated colorant. Applicant notes that the result of Comparative Example 2 of Sakuma et al. demonstrates that ink containing a resin encapsulated colorant (but with Product (A) outside the designated range) does not achieve excellent fixation and blur-suppressing properties.

In maintaining the obviousness rejection over Lin et al. and Sakuma et al. in view of Sacripante et al. or Hotomi et al., the Examiner asserts that it is not necessary for Sacripante et al. or Hotomi et al. to contain all the features of the claimed invention, as they are secondary references. (See page 18 of the Office Action.) However, Sacripante et al. and Hotomi et al. each disclose an ink completed by itself and the effect thereof. Applicant submits that it would not have been obvious to take one component of the ink of Sacripante et al. and add it to the ink of Lin et al., and that even a person skilled in the art could not know whether the resulting ink could be used as an ink-jet ink. This is even more the case when the ink is a non-aqueous ink as in Hotomi et al.

Certain claims were rejected over Tsutsumi et al. in view of either Johnson et al. or Tsang et al. (See item 14 of the Office Action.) Tsutsumi et al. discloses an aqueous ink-jet ink composition comprising an emulsion of a colorant such as a pigment encapsulated into polymer particles dispersed in an aqueous medium and an amino acid or salt thereof, stating that not all the colorant present in the ink is encapsulated into the polymer. The Examiner recognizes that the ink of Tsutsumi et al. contains pigment and resin encapsulating a colorant, and

acknowledges that self-dispersing carbon is not disclosed in Tsutsumi et al. The Examiner takes the position that application of the self-dispersing carbon of Johnson et al. or Tsang et al. to the ink of Tsutsumi et al. is obvious. However, as described above, the effect of the invention of Tsang et al. or Johnson et al. is intrinsic to that particular ink composition, and one cannot apply one ink component from Tsang et al. or Johnson et al. to the ink of Tsutsumi et al. and know whether such an ink will work as an ink-jet ink.

Other claims were rejected over these three references and further in view of Yui et al. and Hotomi et al. (See item 15 of the Office Action.) Since it is not obvious to combine Tsutsumi et al. and Johnson et al. or Tsang et al. to obtain the present invention, further combination with Yui et al. or Hotomi et al. also would not render the present invention obvious. In particular, Applicant notes that Hotomi et al. discloses non-aqueous ink.

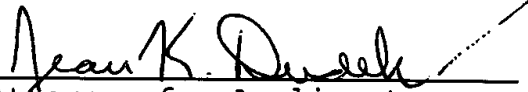
In view of the foregoing amendments and remarks, Applicant submits that independent Claims 61 and 82 are patentably distinct over the cited references. Applicant submits that the dependent claims also are patentable for the same reasons as Claims 61 and 82, and because they set forth

additional aspects of the present invention. Separate and individual consideration of each dependent claim is respectfully requested.

Applicant submits that the instant application is in condition for allowance. Favorable consideration, and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,


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